Seminar on Homological Stability and Its Applications to Number Theory

Join us every Wednesday at 12:00 PM at IMAR for an engaging series of lectures on homological stability and its significant implications for number theory. This seminar will explore the state-of-the-art developments in the field, inspired by the groundbreaking work of Bergström, Diaconu, Petersen, Westerland, and Miller, Patzt, Petersen, Randal-Williams. These lectures will discuss pivotal results, including the proof of the asymptotics of the moments of quadratic Dirichlet series at the central point in the function field setting.

Our aim is to leverage the expertise of various researchers active in these domains to explore and understand the underlying concepts and ideas, fostering further research into similar applications of homological stability in number theory.

We plan to facilitate attendance at this seminar through Zoom by providing a link for interested participants.

First meeting: June 12th.

Adrian Diaconu will speak (time permitting) about:

1. The general axiomatic framework in which such arithmetic results can be proved; definitions of L-functions, families, etc.

2. Relevant facts about symmetric functions and λ-rings.

3. How Exp-Log formulas arise; in all relevant examples, the stable homology should be pure.

4. Why a uniform stability result is needed: heuristics.

Organizers: Adrian Diaconu, Martin Palmer, Vicentiu Pasol and Alexandru Popa

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